

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (currently amended): A parallel optics subassembly for mating with a ferrule supporting an array of optical fibers adapted for carrying digital signals and having a set of alignment holes positioned in a precisely spaced relationship with said array of optical fibers, the parallel optics subassembly comprising:

a) a receptacle for guiding and latching said ferrule into position including a window at the inner end of the receptacle;

b) a carrier assembly for supporting an optoelectronic device having an array of photoactive components, the carrier assembly includes a flex circuit and a printed circuit board, the flex circuit is electrically connected to the optoelectronic device and to the printed circuit board, the printed circuit board includes an electrical edge connector for removeably connecting the parallel optics subassembly to a computer or communications system; and

c) a lens and alignment frame defining an optical and mechanical interface between said ferrule and said carrier assembly which is mounted on said carrier assembly in a precisely positioned relationship with said optoelectronic device, said lens and alignment frame including:

an array of lenses for focusing light between said array of optical fibers and said array of photoactive components, each lens of the array of lenses being truncated in a

lateral direction so as to have a height dimension and a width dimension, the height dimension being greater than the width dimension, each lens of the array of lenses having common boundaries with adjacent lenses of the array of lenses which are contiguously positioned in a linear array, and wherein a first lens of the array of lenses is separated from a second lens of the array of lenses by a first interval, and wherein the first interval is substantially equal to 250 microns, and wherein the array of lenses includes twelve lenses,

a tower extending outward from said lens and alignment frame for engaging said window in said receptacle and helping to position said receptacle with respect to said lens and alignment frame, and wherein said tower has a rectangular base and includes a pair of elevated sections located on opposing ends of said tower, and wherein the window in the receptacle is rectangular and the tower is rectangularly shaped so as to mate with the window, and

a set of guide pins projecting from and forward of said tower for mating with said alignment holes on said ferrule and positioning said ferrule with respect to said lens and alignment frame and optoelectronic device, and wherein said set of guide pins are mounted on the pair of elevated sections, and wherein the array of lenses extend between each elevated section of the pair of elevated sections.

Claims 2-5 (canceled)

Claim 6 (currently amended): A parallel optics subassembly for mating with a ferrule supporting an array of optical fibers adapted for carrying digital signals and having a set of alignment holes positioned in a precisely spaced relationship with said array of optical fibers, the parallel optics subassembly comprising:

a) a receptacle for guiding and latching said ferrule into an interconnected position with said parallel optics subassembly;

b) a carrier assembly for supporting an optoelectronic device having an array of photoactive components; and

c) a lens and alignment frame defining an optical and mechanical interface between said carrier assembly and said ferrule which is attached to said carrier in a precisely spaced relationship with said optoelectronic device, the lens and alignment frame including:

a tower extending outward from said lens and alignment frame including a set of elevated end sections, the tower includes a rectangular base, and each elevated end section of the set of elevated end sections are located on opposing ends of the rectangular base, and wherein the receptacle includes a rectangular window at an inner end of the receptacle for mating with the tower and helping to position the receptacle with respect to the lens and alignment frame so that the ferrule is accurately positioned with respect to the lens and alignment frame and carrier assembly,

an array of lenses mounted on said tower in between each elevated end section of said set of elevated end sections for focusing light between said array of optical fibers and said array of photoactive components, and each lens of the array of lenses being truncated in a lateral direction so as to have a height dimension and a width dimension,

the height dimension being greater than the width dimension, each lens of the array of lenses having common boundaries with adjacent lenses of the array of lenses which are contiguously positioned in a linear array, and wherein a first lens of the array of lenses is separated from a second lens of the array of lenses by a first interval, and wherein the first interval is substantially equal to 250 microns, and wherein the array of lenses includes twelve lenses, and

a set of guide pins projecting forward from said set of elevated end sections on said tower for mating with said alignment holes on said ferrule and positioning said ferrule with respect to said lens and alignment frame and optoelectronic device.

Claims 7-8 (canceled)

Claim 9 (currently amended): A parallel optics subassembly for mating with a ferrule supporting an array of optical fibers adapted for carrying digital signals and having a set of alignment holes positioned in a precisely spaced relationship with said array of optical fibers, the parallel optics subassembly comprising:

a) a carrier assembly including a frame section for supporting an integrated circuit chip having an array of photoactive components; ~~and~~

a receptacle for guiding and latching the ferrule into position with the parallel optics subassembly, the receptacle including a window at an inner end of the receptacle; and

b) a lens and alignment frame for defining an optical and mechanical interface between said carrier assembly and said ferrule which is attached to said carrier assembly in a precisely

spaced relationship with said photoactive components ~~optoelectronic device~~, said lens and alignment frame including:

a tower extending outward from said lens and alignment frame including,
a pair of elevated end sections,

an array of lenses for focusing light between said photoactive components and said array of optical fibers, and the array of lenses being mounted between each elevated end section of the pair of elevated end sections, each lens of the array of lenses being truncated in a lateral direction so as to have a height dimension and a width dimension, the height dimension being greater than the width dimension, each lens of the array of lenses having common boundaries with adjacent lenses of the array of lenses which are contiguously positioned in a linear array, and wherein a first lens of the array of lenses is separated from a second lens of the array of lenses by a first interval, and wherein the first interval is substantially equal to 250 microns, and wherein the array of lenses includes twelve lenses, and

a set of guide pins projecting forward of said tower for mating with said set of alignment holes on said ferrule, and the set of guide pins being mounted on the pair of elevated end sections.

Claims 10-13 (canceled)

Claim 14 (currently amended): A parallel optics subassembly for mating with a ferrule supporting an array of optical fibers adapted for carrying digital signals and having a set of

alignment holes positioned in a precisely spaced relationship with said array of optical fibers, the parallel optics subassembly comprising:

a) a receptacle for guiding and latching said ferrule into position including a window at ~~the~~ an inner end of the receptacle;

b) a carrier assembly including a frame section for supporting an optoelectronic device having an array of photoactive components, a flex circuit for providing electrical interconnections, and a printed circuit board;

c) an electrical edge connector on one edge of said printed circuit board for pluggably interconnecting said parallel optics subassembly with a jack mounted on a circuit board of a computer or a communications system; and

d) a lens and alignment frame for defining a mechanical and optical interface between said ferrule and said carrier assembly which is attached to said carrier assembly in a precisely spaced relationship with said photoactive components ~~optoelectronic device~~, said lens and alignment frame including:

a tower extending outward from said lens and alignment frame for engaging said window in order to help position said receptacle with respect to said lens and alignment frame, and

a set of guide pins projecting forward of said tower for mating with said alignment holes on said ferrule in order to position said ferrule and the array of optical fibers with respect to said lens and alignment frame, the carrier assembly, and the photoactive components, and ~~optoelectronic device~~

an array of lenses for focusing light between said photoactive components and

said array of optical fibers, each lens of the array of lenses being truncated in a lateral direction so as to have a height dimension and a width dimension, the height dimension being greater than the width dimension, each lens of the array of lenses having common boundaries with adjacent lenses of the array of lenses which are contiguously positioned in a linear array, and wherein a first lens of the array of lenses is separated from a second lens of the array of lenses by a first interval, and wherein the first interval is substantially equal to 250 microns, and wherein the array of lenses includes twelve lenses.

Claims 15-20 (canceled)